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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/587,414

11/07/2006

Vincent Leung

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EXAMINER

NGUYEN, KHANH V

ART UNIT

PAPER NUMBER

2817

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,414	Applicant(s) LEUNG ET AL.	
	Examiner Khanh V. Nguyen	Art Unit 2817	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 6, 7-10, 13, 14, 16, 17, 20, 22 is/are rejected.
- 7) ☒ Claim(s) 2-5, 11, 12, 15, 18, 19 and 21 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>12/18/06</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claim 1 is objected to because of the following informalities:

Claim 1, line 2, "the input power" should correctly be -- an input power --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

"summing" limitation is unclear since it is not known how "first and second current is summed to produce differential current". Should it be summed to produce a single current?

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 7-10, 13, 14, 16, 17, 20, 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iga (6,429,743).

Regarding claims 1, 9, 10, 14, Iga discloses claimed invention except having filter as claimed. Iga (Fig. 2) discloses a differential amplifier circuit comprising: transistors (QN1, QN2) accepting positive and negative voltages and generating differential currents and a bias circuit for biasing at the input of the differential amplifier. However, it is well known in the art that filter only enhance circuit performance, such as removing noise, as such adding a filter to the reference circuit would have been obvious to a person having ordinary skill in the art. Regarding clipping, which is designed choice since it is based on transistor sizes or other circuit component values.

Regarding claim 7, the particular filter claimed is considered a matter of design engineering since they are readily available for any given intended use of the invention.

Regarding claim 8, wherein a condition in which the filtering is conducted is based on circuit design, which is considered a matter of design engineering.

Regarding claim 13, wherein transistors (QN1, QN2) produces first and second currents and current mirror (QP1, QP2) combined first and second currents to produce a bias current at node (Nb).

Regarding claims 16, 17, 22, Iga discloses bias circuit (20) can be read as a quiescent current bias supply circuit; a differential pair (QN1, QN2), wherein it is well known in the art that field effect transistor and bipolar transistor can be used interchangeably, thus replacing one particular type of transistor for another would have been obvious; and a current mirror (QP1, QP2) can be read as current summer. However, it is well known in the art that filter only enhance circuit performance, such as removing noise, as such adding a filter to the reference circuit would have been obvious to a person having ordinary skill in the art. Regarding clipping, which is designed choice since it is based on transistor sizes or other circuit component values.

Regarding claim 20, Iga does not disclose a further amplifier circuit. However, in any practical use of Iga (Fig. 2) device the output would be connected to a further circuit which could be read as the claimed an amplifier circuit. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide an amplifier circuit as claimed.

Allowable Subject Matter

Claims 2-5, 11, 12, 15, 18, 19, 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

Claims 2, 18, 19 call for, among others, step of subtracting quiescent bias current as claimed.

Claims 3-5, 11, 12, 15 call for, among others, step of multiplying the adaptive bias current.

Claim 21 calls for, among others, an output transistor amplifier including a degeneration resistor.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The additional reference (Behzad et al. (6,496,067)) shows further analogous prior art circuitry, differential amplifier having input biasing circuit.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh V. Nguyen whose telephone number is 571-272-1767. The examiner can normally be reached on 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal can be reached on 571-272-1769. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Khanh Van Nguyen/
Primary Examiner, Art Unit 2817